

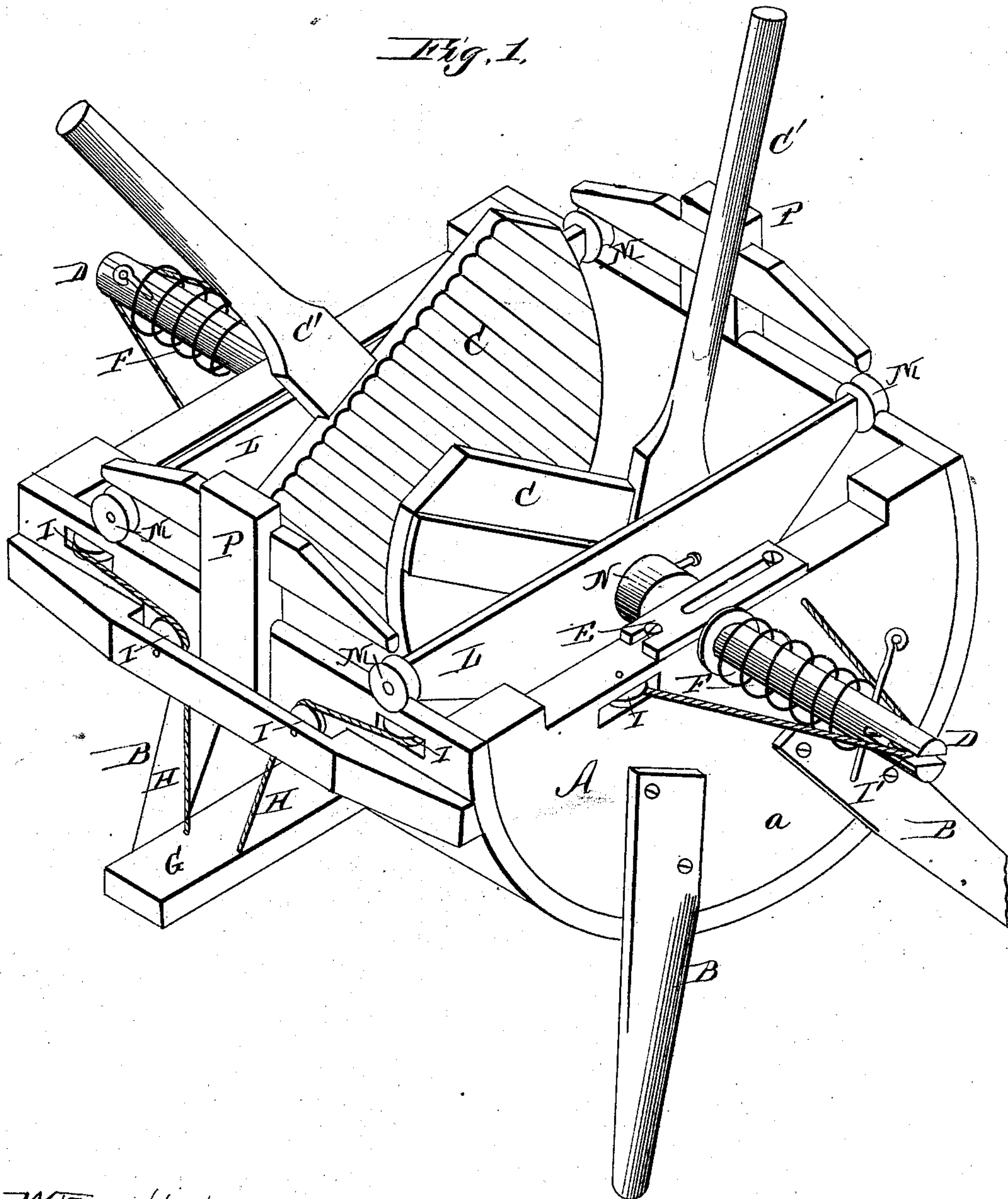
(No Model.)

2 Sheets—Sheet 1.

G. S. CALDWELL.  
Washing Machine.

No. 237,245.

Patented Feb. 1, 1881.



Witnesses:  
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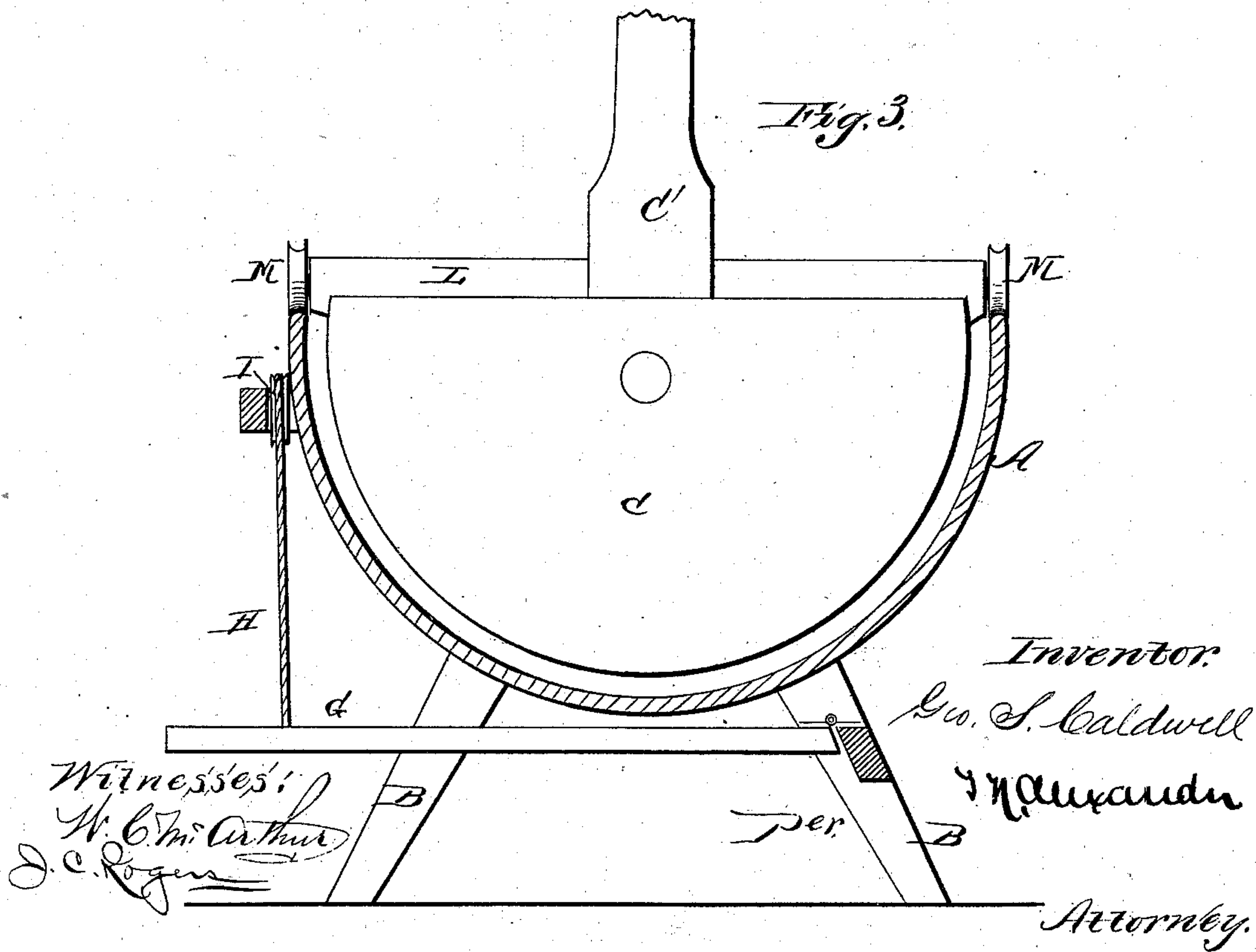
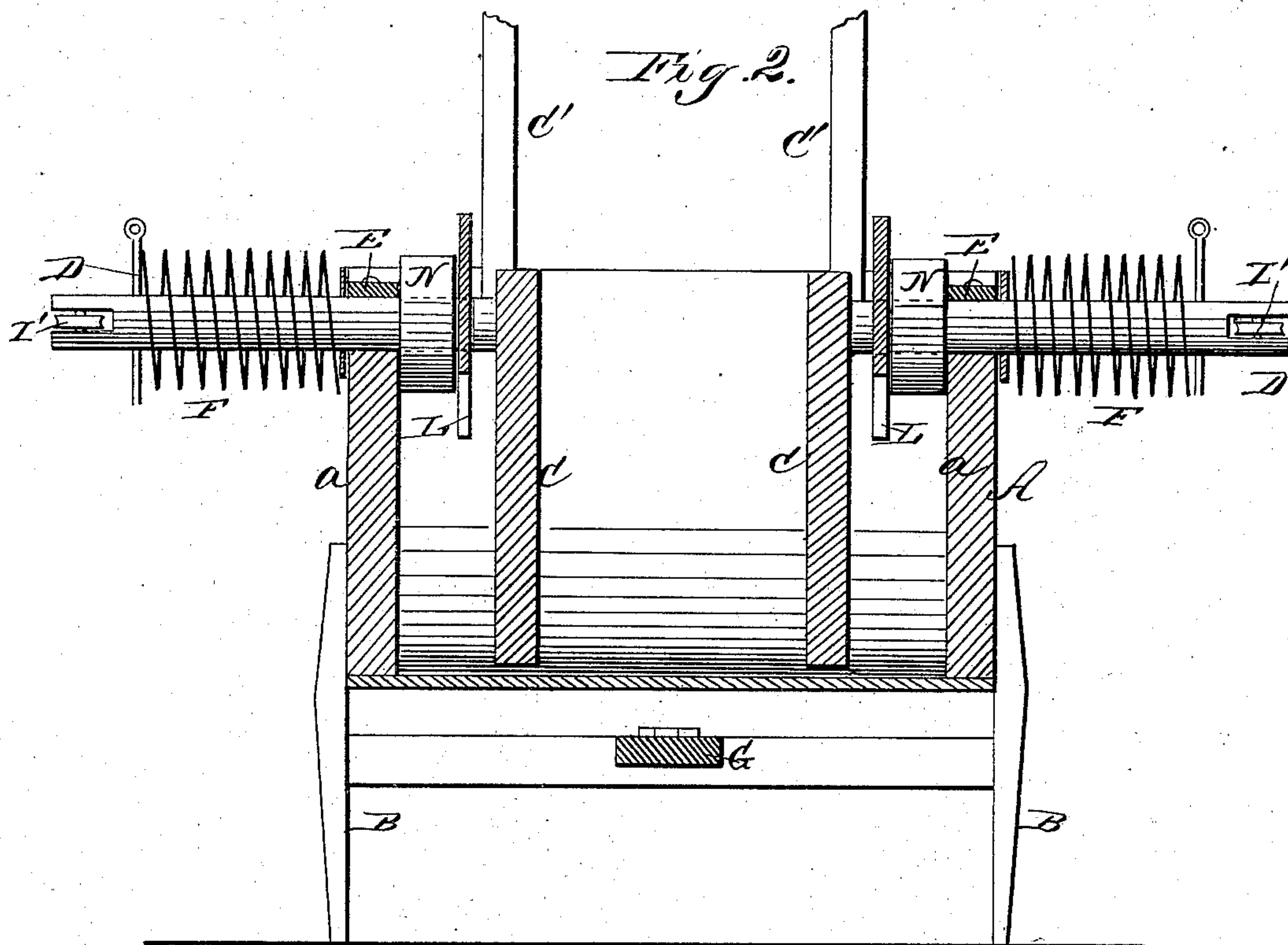
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# UNITED STATES PATENT OFFICE.

GEORGE S. CALDWELL, OF AUBURN, NEW YORK.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,245, dated February 1, 1881.

Application filed October 21, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE S. CALDWELL, of Auburn, in the State of New York, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The object of this invention is to provide a washing-machine with means for rubbing, agitating, and compressing the clothes to be washed in a simple and effective manner; and the improvement consists in the combination of devices hereinafter described, and specifically mentioned in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my washing-machine; Fig. 2, a longitudinal section, and Fig. 3 a cross-section thereof.

The letter A refers to the body of the machine, which is made of a semi-cylindrical shape and provided with vertical end boards, *a a*, which close the ends of the tub or receptacle thus formed. Legs B B are employed for supporting the machine in the ordinary way.

Within the tub are arranged a pair of segmental-shaped oscillatory boards, C C, which are corrugated upon their opposing faces, and which subserve the functions both of rubbers or agitators and of compressors for the articles of clothing to be washed. The axes about or upon which these boards oscillate consist of shafts D D, which are supported in bearings afforded by the vertical end boards of the tub, the ends of these shafts being extended out beyond such end boards for a purpose presently explained. The bearings for the shafts are formed by means of concavities made in the top edges of the end boards, and as a means of retaining the shafts within such bearings the covering-plates E are employed. To admit of the removal of the shafts from their bearings, should it be found desirable to lift the oscillatory boards out of the tub, the said plates are held upon the end boards by means of studs passed through slots in the plates, whereby the latter constitute sliding coverings over the shafts; or the plates may be pivoted to the end boards and temporarily secured in

position over the shafts by catches of any suitable construction.

The oscillatory rubbing and compressing boards C are provided with handles C', which are to be grasped by the hands of the operator in order to oscillate the boards after the clothing to be washed has been placed between the same. The rubbing and compressing boards stand normally at some distance apart and in close proximity to the vertical end boards of the tub, such position of the oscillatory rubbing and compressing boards being maintained by means of springs F, which are applied to the shafts D between their ends and the outer sides of the vertical end boards of the tub. The coiled spring herein shown is, by preference, employed, although other forms of springs which would tend to hold the oscillatory rubbing and compressing boards apart might be used; or, in lieu of springs, weighted cords passed over pulleys and connected to the shafts could be adopted with a like result.

In order to bring the oscillatory rubbing and compressing boards together, so as to adjust the space between their opposing corrugated faces with reference to the bulk of the clothing placed in the tub, and also to vary the pressure of their corrugated faces upon the clothing, as may be found necessary during the process of washing, the following means are employed:

To a cross-bar secured at its ends to one pair of the legs of the tub, or to any suitable bracket projecting down from the tub or body A, is hinged a treadle, G, the free or unhinged end of which extends from under the tub in position to be conveniently acted upon by the foot of the operator. Two cords, H H, which are secured to the free end of this treadle, pass over a suitably-arranged series of anti-friction pulleys, I, supported by the body of the machine, and the said cords likewise pass around anti-friction pulleys I' in the ends of the shafts D, after which they are secured to the body of the machine in any convenient manner. The length of these cords is such that when the shafts D, which have a sliding or end movement in their bearings, as well as a rocking motion, are extended from the vertical ends of the tub to the farthest limit by the resiliency of their



springs the cords will likewise be extended from the ends of the tub, so that the treadle will be raised to a suitable distance from the floor.

In order to bring the oscillatory rubbing and pressing boards toward each other, the operator need simply depress the treadle by his foot, which movement on the part of the treadle causes a tension upon the cords, which, in their turn, act upon the pulleys of the shafts, and thus force the shafts inwardly. Hence the hands of the operator can be employed in oscillating the rubbing and pressing boards, while at the same time the latter are adjusted toward each other by the foot and apart by the springs F, as will be readily seen by reference to the drawings.

As a means of affording supports for the shafts D, in addition to their bearings in the ends of the tub, and also for steadying the shafts and facilitating their end movement, a pair of followers or supporting-boards, L L, are suspended upon rollers M M, which travel upon the top edges of the sides of the tub, and the shafts D are passed through openings formed in said boards. These followers or movable supports are arranged upon the shafts between the oscillatory rubbing and compressing boards and vertical end boards of the tub, and they are preferably maintained in close proximity to the said oscillatory boards by means of collars N. Hence as the shafts and oscillatory boards are moved toward or away from each other the supporting-boards L partake of such movement.

In order to guard against any tilting or vertical displacement of the followers L, T-shaped brackets P are secured to the machine in such position that the rollers of the followers L will rest upon the top edges of the sides of the tub below the vertical arms of said brackets.

It will be observed that the followers L L, being upon the same shafts as the rubbing-boards C C, can be removed with them by removing the journal-plate E.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a washing-machine, of the oscillating rubbing and compressing boards C C, followers L L, with their rollers M M, and T-shaped brackets P P, all constructed and arranged to operate as and for the purpose set forth.

2. The within-described washing-machine, consisting, essentially, of box A, rotating sliding rubbers C C, followers L L, T-shaped brackets P P, shafts D D, treadle G, and cords H H, all constructed, combined, and operating substantially as herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE SAGE CALDWELL.

Witnesses:

HARLEY G. SPAULDING,  
J. NEWTON DEXTER.